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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/054,065	01/22/2002	David Michael Friend	ROC920010210US1	3886

7590

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EXAMINER

MAI, TAN V

ART UNIT

PAPER NUMBER

2124

DATE MAILED: 02/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/054,065

Applicant(s)

FRIEND ET AL.

Examiner

Tan V Mai

Art Unit

2124

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 16-30 is/are rejected.
- 7) ☒ Claim(s) 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 2124

1. Claims 1-13 and 26-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per independent claim 1, the claim language is vague and indefinite. For instance, although the preamble of independent claim 1 claims "[a]n apparatus for **adding at least two binary numbers**", the claim fails to recite the necessary detail physical structures to perform the recited function(s) nor are there any recitation describing how such an apparatus (or elements) is actually provided in the apparatus. Sufficient detail apparatus or elements must be recited to adequately describe and constitute the proposed apparatus. The claim seems to be incomplete in that it recites only a portion [i.e., the "critical path"] of the methodology required for the apparatus for **adding at least two binary numbers** to become operational, i.e., it omits essential elements and/or steps. See MPEP 2172.01. Similarly noted independent claims 8, 26 and 29.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 14 and 16-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ashkenazi in view of Applicants' "BACKGROUND OF THE INVENTION".

As per independent claim 14, Ashkenazi discloses, e.g., see Fig. 4, the invention substantially as claimed, including: P/G GENERATOR (40), GROUP(g) P/G TERMS (41) and CONDITIONAL SUMS GENERATOR (42) which are considered the claimed "first level of logic", "second level of logic" and "third level of logic", respectively. It is noted that Ashkenazi does not specifically detail the claimed "logics comprising **domino logic gates**". However, the "**domino logic gates**" feature is old and well known in the art, e.g., see Applicants' "BACKGROUND OF THE INVENTION", paragraphs [0013]-[0014]. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine Applicants' "BACKGROUND OF THE INVENTION", i.e., "Domino logic ... has the advantage of low propagation delay and smaller area" in Ashkenazi, thereby making the claimed invention, because the proposed device is a 64-bit adder having three level of logics as claimed.

Due to the similarity of independent claim 16 to independent claim 14, it is rejected under a similar rationale.

As per dependent claims 17, the claim adds the "longest circuit path through the apparatus is three domino logic gates". The feature is obvious to a person having ordinary skill in the art if the adder only has either 8 or 16 bits.

Due to the similarity of dependent claims 18-20 to dependent claim 17, they are rejected under a similar rationale.

Art Unit: 2124

Due to the similarity of claims 21-25 to claims 16-20, they are rejected under a similar rationale

4. Claim 15 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 1-13 and 26-30 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Cited references are art of interest.

6. The following is an examiner's statement of reasons for allowance: the recorded references do NOT teach or suggest the 64-bit / 56-bit adder having critical path / longest circuit path is THREE gates / gate delays as recited in independent claims 1, 8, 26 & 29 and dependent claim 15.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Art Unit: 2124

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tan V. Mai whose telephone number is (571) 272-3726. The examiner can normally be reached on Mon-Wed and Fri. from 9:30am to 2:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki, can be reached on (571) 272-3719. The fax phone number for the organization where this application or proceeding is assigned is:

Official (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.



TAN V. MAI
PRIMARY EXAMINER